241 plants is conserved. Cow manure is reportedly used as fertilizer in the banana groves as well as in the fields, and especially on the gourd plantations in certain parts of Ruanda. In Bugoye, however, where the soil is very rich, fertilizer is not used. Here, it is said, there is danger that the growth of millet become too lush and fall down. The farmers try to avert this by binding the stalks into tiny bundles during the growing season.

312 241 One sees a great many irrigation systems north of Lake Mohasi. In Mulera, on the other hand, where there seems to be more rain, I did not see any. Frequently the water is brought in through narrow canals from dammed-up streams. For example, on the northern slope of Mount Ndisa near the Nyawarongo River I saw a water system two kilometers long [136] which descended gently to the plantations on the foothills and could be heard along its course. The main line had a number of outlets stuffed with sod, which could carry the necessary water to the pastures on the mountain slopes. The water is conducted through deep furrows separating the rectangular beds. It was only in Bgisha near Rutshuru that I saw a marshy lowland in which earth was thrown into mounds almost a meter high. These peculiar beds were sown to peas.

● 242 The first terraced fields which I had an opportunity to see were in the country north of Lake Mohasi, but they occur throughout the rest of northwestern Ruanda. In many cases they seem to be unintentional and were probably formed naturally when the slope was tilled. The terraces are two to three meters high.

In Ruanda there seems to be a certain crop rotation. In Itambi beans and peas are first planted on the cleared land and, after that, millet. In Mulera I was told that this rotation is also adhered to in fields that have been planted for some time. After the millet harvest, however, the ground is allowed to lie fallow. This order of rotation is not always maintained. One often sees millet planted along with beans. This occurs even in cases where there is no lack of space. I was told that beans can be harvested earlier without harming the millet.

Letting the fields lie fallow, it would seem, is also not a regular practice. In several cases I found that it was due to the

242 impossibility of planting the field at the proper time. For example, the Bahutu told me that near the farm of Lwakadygi several fields had to remain uncultivated because it was too late when the Batutsi moved their cattle into the forest.

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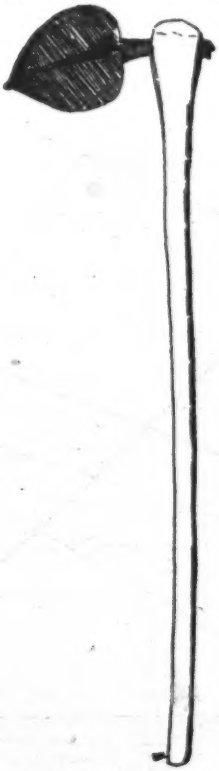

The soil is cultivated with a clumsy iron hoe (issuka). It has a long, heavy handle which is thicker at the top. The blade is fastened to the handle by means of a point at the back. [137] The point is driven into a hole burned into the handle. This method of hafting is used in the Bahinda states and throughout Buhaya. In Toro, Bunyoro, Buganda, and Nkole (at least in the north where I had a chance to observe this), the hoe is fastened somewhat differently. Here the handle consists of a forked branch cut from the trunk a little below the fork. The two parts of the fork are cut to an uneven length, the longer one being the handle and the shorter one, cut diagonally, bears the blade. The upper, protruding part of the blade is tied to the handle. This type of hoe is very awkward and a great strain to use, because the short handle forces the workers to bend over very low.

Fig. 25. Field Hoe from Julera. (1/12 actual size. III E 13108. Length of handle: 113 centimeters; length of blade: 31 centimeters; width 19.5 centimeters.)

The short hoe seems to be an older type which is dying out. My Wassukuma [Sukuma] porters told me that among their people the short-handled, bound hoe was commonly used in ancient